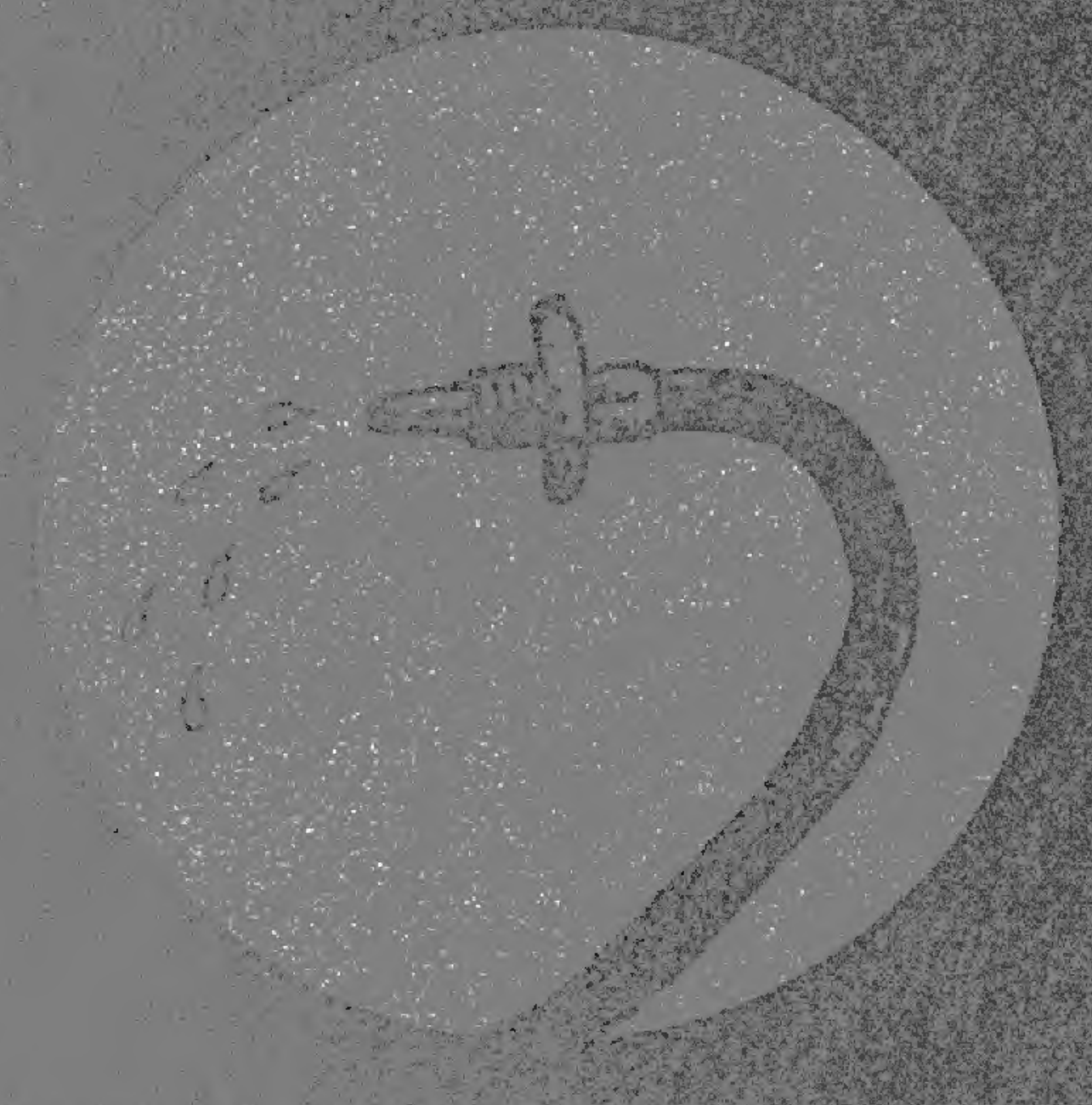


# horticulture

for the home gardener



Number 12

## Water Conservation Through Efficient Methods

Water is being used in California at a rate of 10% without getting any closer to the goal of 50%. Most plants need water after a certain point, but the water is being lost.

Suggestions for conservation and the amount of water are available and practical. Conservation of water is a goal for everyone's participation.

1. Watering and wind are the most common causes of water loss and wind are at a minimum. Studies have shown that in a hot, dry climate, the water volume released through overhead watering is lost to the soil because of wind and evaporation.
2. Infrequent, deep soaking is more efficient than daily watering of lawns and plants than daily watering. The deeper the water penetrates into the soil, the deeper the roots will grow and there will be less chance of water stress occurring because of drought. By following the practice of deep watering the necessity for irrigation becomes less frequent. Also, if water is available at a deeper level, plant roots will penetrate deeper into the soil.
3. Mature trees and shrubs use less water. Mature trees and shrubs can usually go through the fall, winter and spring months with no need watering every 10 days. During the summer or warmer months as little as once a week may be needed.
4. Turn off sprinklers when runoff occurs. Let water soak in before turning on. Water will take the path of least resistance. Therefore, water will run off the surface faster than penetrating the soil. Use a soil sampler or a spade to check soil moisture before and after irrigation. Make sure water has penetrated to at least 18 inches.
5. Soil soakers are more efficient on uneven lawns and gardens. Overhead sprinklers will provide more water than the soil can absorb so the low areas in the garden collect water running off from the higher areas. Thus, uneven watering occurs. Soil soakers release water at a smaller volume and water distribution will be more even.
6. Reduce the fertilizing of your lawn by one-half. A well fertilized lawn, growing vigorously, will use more water. Reducing the number of fertilizer applications means less lawn growth and less water loss through transpiration. Less growth also means less mowing.
7. Reduce the lawn size where desirable with groundcovers and shrubs. A lawn probably uses a greater amount of water than any other part of the landscape. Drought tolerant groundcover such as geranium or assorted succulents might be substituted for grass or ligustrum. If a lawn is desirable, however, remember that warm season grasses (St. Augustine, Bermuda grass, Zoysia grass, etc.) require less irrigation than cool season grasses.

(OVER)



8. Use a mulch in garden areas to reduce evaporation.  
Organic and mineral mulches will reduce evaporation from the soil. Cultivating compost and mulches deep into the bedding plant and vegetable garden areas is also desirable because organic matter has the ability to store moisture. See the horticulture sheet (May 1976 - #8) for more ideas on mulching.
9. Get rid of weeds.  
Weeds use water. They adapt very well to the environment and can dominate the area, using all available plant nutrients including water.
10. Consider making an investment in drip irrigation.  
The drip irrigation system is a relatively new method of watering, supplying water at a slow rate over a long period of time. The water is usually applied at ground level so there will be minimum evaporation loss or runoff. The system consists of individual tubing supplying water to each plant at a very slow rate - almost a drop at a time.
11. Examine the possibility of using California native plants and types of drought tolerant plants.  
The type of plants to consider are ones that will adapt to our climate and also those that require the least frequent watering. Plants native to Southern California survive by growing with the winter rains and being dormant during the hot summer months. Many introduced plants in the home landscape are also drought tolerant. The Arboretum has introduced several new varieties of drought tolerant plants to Southern California. A list of these plants is mentioned in the brochure "Green Belts for Brush Fire Protection and Soil Erosion Control in Hillside Residential Areas."
12. Use a broom to sweep walks and a rake to sweep leaves.  
One of the most wasteful habits among Southern Californians is the practice of using water to clean non-growing areas. Try to remember to use a broom or rake to clean driveways and sidewalks. Sprinklers should be adjusted so water is not applied to walks and driveways where it simply runs down into drains or evaporates.

Partial list of drought tolerant plants for Southern California that are readily available:

Acacia baileyana  
Cedrus deodora  
Ceratonia siliqua  
Eucalyptus camaldulensis

Agave americana  
Arctostaphylos manzanita  
Callistemon citrinus  
Cassia artemisioides  
Ceanothus griseus  
Cistus purpureus

Arctostaphylos uva-ursi  
Aloe brevifolia  
Baccharis pilularis  
Delosperma 'Alba'

#### TREES

Pinus canariensis  
Quercus ilex  
Schinus molle  
Washington filifera

#### SHRUBS

Dodonaea viscosa  
Heteromeles arbutifolia  
Juniperus chinensis  
Nerium oleander  
Prunus lyonii  
Rhus ovata

#### GROUNDCOVERS

Gazania uniflora  
Hypericum calycinum  
Malephora crocea  
Rosmarinus officinalis